

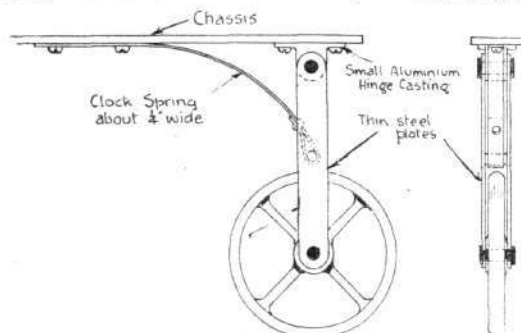
WRIGHT MODELS (279).

[422] I would recommend 2'8 in. propellers for model described by G. Alchins (279). The Cochrane Co. supply flat strip rubber just over $\frac{1}{2}$ in. wide at 1 $\frac{1}{2}$ d. per yard; they have also got small cut gear-wheels $\frac{1}{8}$ in. thick for making geared rubber motors, gear ratio 3 to 1, price 6d. each.

H. WILLIAMSON.

SUSPENSION FOR MODELS.

[423] I herewith enclose sketch of cheap and effective method



of springing wheels for model aeroplanes, which I have found quite satisfactory. Trusting this will interest your readers.

Manchester.

J. DITCHFIELD.

MODEL DESIGNS.

[424] Could you or any of your readers—through FLIGHT—supply me with plans of a model aeroplane?

I want it to be small, cheap, and easy of construction, and so long as it flies I don't mind in the least it not being a "perfect" model.

Great Marlborough Street, W.

NULLI SECUNDUS.

AN INDIAN BIPLANE.

[425] We have yours giving us names of motor engines, for which we are much obliged, and in return we are posting you photograph of what we believe is the first aeroplane in India, which has been constructed by one of our customers, a Mr. C. D'Angelis, of Madras. The machine has been built by our friend entirely from his own designs, and we understand that although up to the present he has been experimenting with a small horse-power engine, the results given by this are so satisfactory that with a higher horse-power he anticipates being able to make long and consecutive flights.

E. AND A. LEVETUS AND CO.



Mr. C. D'Angelis' Indian biplane.

SILVER SPRUCE.

[426] Knowing that you are always willing to assist your readers when in difficulties and believing the matter about which I write to be one of general interest, I would be very glad of a little advice and assistance. I wish to procure a quantity of best Oregon or silver spruce, such as is used by the British and American builders of aeroplanes. The Clarke glider is, I believe, built of this wood, and Messrs. Short Brothers use it largely. Can you advise one how to obtain sufficient to build a glider. I ordered some first quality spruce from a timber merchant and the enclosed is a sample of the stuff I received. Would you be good enough to say if this is spruce. It appears to be ordinary white deal and I am dubious as to the advisability of using it for my machine. Thanking you in anticipation.

Hanwell.

WALTER BIRD.

[We placed the specimen referred to in the above letter before a well-known constructor, who replies as follows:—

"It is apparently an ordinary piece of white spruce. This is by no means the same material (although of the same kind) as the silver spruce, of which I use a great deal in all my machines. (I think I was about the first person in England to use it at all three and a half years ago.) White spruce is one of the commonest of woods, and is very stiff, but it is hard to obtain clean in long lengths, and is very liable to warp and go crooked. The best is the Quebec spruce. Silver or silk spruce, on the other hand, can be obtained in planks 30 ft. long without a mark or flaw in them, and beautifully straight; it is of a slightly pink colour, and when planed has a crystalline silky appearance; it is also considerably harder to work with the plane, &c. It comes from Canada (nearly all straight-grained timber comes from the American continent, where the climatic conditions are more regular than on our side). Being considerably more expensive, it is not used much except for special work. Messrs. Voisin Frères have sent over to England for a considerable amount of this wood; they also had some of the shaping for their struts done at my works."

H.P. OF MODEL PETROL ENGINES.

[427] I beg to draw attention to what I think must be misleading ratings of the h.p. of model petrol engines listed by various firms. The engines made at my works—the Hammersmith Model Works—of $\frac{1}{2}$ -h.p., have 1 $\frac{1}{2}$ in. by 1 $\frac{1}{2}$ in. stroke and the $\frac{1}{4}$ -h.p. 1 $\frac{1}{2}$ in. by 1 $\frac{1}{2}$ in. stroke at 2,000 r.p.m. Other firms of which we have lists have 1 $\frac{1}{2}$ in. by 1 $\frac{1}{2}$ in. stroke, giving $\frac{3}{4}$ -h.p., and the $\frac{1}{4}$ -h.p. are 1 in. by 1 in. stroke, the stated power at 1,800 r.p.m. Now a simple formula for rating of engine h.p. is:—

$$\frac{\text{Bore}^2 \times \text{stroke} \times \text{No. of Cylinders} \times \text{R.P.M.}}{12,000} = \text{H.P.}$$

One will see that the above engine dimensions are quite wrong as regards power stated. I shall be pleased to hear from readers who have above engines or of similar dimensions whether they have derived full power from their engines or any power at all.

Hammersmith.

R. WEICHTMAN.

MONOPLANES V. MULTIPLANES.

[428] In a recent issue appeared an article entitled Monoplane v. Multiplane, by Mr. A. V. Roe, and as one who has watched his experiments, I should like to write in support of his machine.

I think it is more efficient than any of his foreign rivals, having proved its capability of carrying a load of 50 lbs. per horse-power, whereas I believe that the next best results worked out—with a Farman—at under 35 lbs. per horse-power.

Mr. Roe has flown with an engine of less horse-power than anyone else, either at home or abroad, and in this also he deserves credit for working in an original field.

I have been several times to France lately, and have seen all the leading types, yet every visit makes me more enthusiastic about the future of this British-built triplane.

Trusting that you will find room for this appreciation of British enterprise.

C. R. L. KENWORTHY.

[It will be interesting to watch Mr. Roe's progress with his new machines, that are to have 40-h.p. engines in order to be sufficiently powerful to carry passengers.—ED.]